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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,291	01/03/2002	Yongdong Zhao	IDT-1673	6814

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EXAMINER
CHUEN, MICHAEL P

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/037,291	ZHAO ET AL.
	Examiner	Art Unit
	Michael Chuen	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _03 January 2002_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-27_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-12 and 21-27_ is/are rejected.
7) ☒ Claim(s) _13-20_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _03 January 2002_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2.   Claims 1-3, 7, 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by

Petersen et al.

With regards to claim 1, Petersen in US patent number 6,747,954 includes a

switch port board 24 and maps incoming signals to cells (column 6, line 63). The cells

disclosed have a "two byte header (first two bytes of the service cell) and a payload"

(column 9, line 66). Petersen includes a switch core 22 with a memory array unit 30

comprising cross point units 32 (column 7, line 22) with two buffers at a cross point

(column 7, line 52). Also included is a row column unit 40 which corresponds to each

switch port board and is connected to the input terminals of the cross point units

(column 7, line 32). As disclosed, all cells from a switch port board are sent to a row

column unit (column 13, line 43) and "are analyzed by row column units (RCU) **40**, and

then pass on through row cow column unit (RCU) **40** to the addressed one of the cross

point units" (column 14, line 5). The cell "is temporarily stored in an appropriate

addressed one of the buffers CBQ_1 and CBQ_2 of the XPU **32**" (column 14, line 8). The

cell is then unloaded through a buffer output gate and "transferred through the receiving

row column unit (RCU) **40** to a receiving switch port board" (column 15, line 30).

With respect to claims 2 and 3, Petersen notes that the size of the service cells can vary and that in the illustrated embodiment, the maximum cell size is fifty six bytes (column 9, line 58).

With respect to claims 7, 10 and 12, Petersen discloses that the two byte header of the service cell is used "to route user data to a desired or proper destination" (column 10, line 1). The cell also includes a physical route identifier (PRI) field which indicates a service cell when between 0 and 19 and a control cell when greater than 20 (column 10, line 15). Each cell has a traffic type indication (TTI) code which indicates whether a cell is "unicast", "multicast" or a "broadcast" addressed cell.

With regards to claim 11, Petersen includes a first byte parity bit and a second byte parity bit to check for errors (column 10, line 44). The error correction code disclosed by the applicant, a CRC, is an error checking or detection code.

3.   Claims 22-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Buhrgard et al.

Buhrgard et al. in US patent number 6,671,255 disclose a method of data flow in a packet switching network comprising input/output ports and an exchange core with a buffer hierarchy. Buhrgard's method comprises a backpressure signal transmitted when a threshold value for a buffer is exceeded. Multiple threshold values can be defined to indicate an incremental change in the buffer level and for throttling purposes. When the highest threshold is exceeded, "all traffic to the buffer in question should cease" (column

5, line 14) and the backpressure signal can "comprise a field indicating the threshold

value that has been exceeded" (column 5, line 9).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen

v. Yamato et al.

        Petersen discloses the invention as cited above in the 102 rejection of claim 1.

Yamato et al. in US patent number 6,094,431 disclose a packet generation unit 32

which converts cells into a packet (column 12, line 26). It would have been obvious to

one skilled in the art at the time of the invention to include a system to convert cells into

packets at the output in order to convert the internal cells to a more readily usable

format.

6.   Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Petersen v. St. John.

        Petersen discloses the invention as cited above in the 102 rejection of claim 1. In

addition, Petersen includes a clear command which when sent to the switch core,

immediately clears a register corresponding to a buffer at the cross point (column 26,

line 45). Petersen's invention lacks buffers which support different qualities of service.

St. John in US patent number 6,917,591 teaches a method for allocating bandwidth in multiple access systems comprising queues, each of which are "associated with a quality of service" (column 1, line 63). It would have been obvious to one skilled in the art at the time of the invention to include buffers supporting different qualities of service in order to provide improved bandwidth allocation.

7.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen v. Basso et al.

Petersen discloses the invention as cited above in the 102 rejection of claim 1. Petersen also discloses a TTI field which identifies whether a cell is unicast, multicast or broadcast. The unicast traffic type indicates whether a cell is the only cell. Petersen's patent fails to identify whether a cell is the first in a group, a middle cell in a group or a last frame in a group. Basso et al. in US patent number 6,937,606 teach the data structures, method and a transmission system for IP fragmentation and reassembly. For multicast actions, Basso et al. teach a coding for identifying whether a cell is the first, middle or last in a multicast transmission (column 11, line 17). It would have been obvious to one skilled in the art at the time of the invention to include a coding scheme for identifying during multicast transmission whether a cell is the first, middle or last cell in a group of cells in order to support IP fragmentation.

8.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petersen

v. St. John as applied to claim 5 above, and further in view of Kloth et al.

Petersen v. St. John discloses the invention as cited above in the 103(a)

rejection of claim 5. Kloth et al. in US patent number 6,868,065 disclose a method for

implementing a quality of service policy which includes 1 byte in the IP header to

indicate the quality of service (column 5, line 3). It would have been obvious to one

skilled in the art at the time of the invention to include a byte in the header of a packet to

indicate the quality of service in order to direct packets into their corresponding buffers.

9.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Petersen v. Caldara et al.

Petersen discloses the invention as cited above in the 102 rejection of claim 1.

Caldara et al. in US patent number 5,982,771 teach a method for allocating bandwidth

in a network switch comprising a request message "used to query whether or not

sufficient space is available at the destination output queue, or queues" (column 5, line

45). A control signal is back to indicate "whether or not the destination output queue, or

queues **134** are presently capable of accepting data cells and thus, whether or not the

transmitting TSPP can transmit cells" (column 5, line 50). It would have been obvious to

one skilled in the art at the time of the invention to include this request message and

control signal to prevent congestion at the output queues.

10.   Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Buhrgard et al. v. Manning et al.

    Buhrgard et al. disclose the invention as cited above in the 102 rejection of

claims 22-25. Manning et al. in US patent number 6,167,452 teach an update event

which "provides the transmitting element **12** with an indication of how many cells

originally transmitted by it have now been released from buffers within the receiving

element **14**, and thus provides the transmitting element **12** with a more accurate

indication of receiver element **14** buffer **28** availability" (column 7, line 24). It would have

been obvious to one skilled in the art at the time of the invention to include an update

event to find out the fill level of a queue.

11.   Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Buhrgard et al. v. Petersen et al.

    Buhrgard et al. disclose the invention as cited above in the 102 rejection of

claims 22-25. Petersen et al. teach a clear command which immediately clears a

register in the switch core (column 26, line 44). It would have been obvious to one

skilled in the art at the time of the invention to include a clear command in order to

purge a queue.

Allowable Subject Matter

12.   Claims 13-20 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of
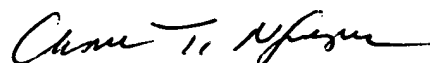
the base claim and any intervening claims.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to the

applicant's disclosure. Siu et al. provides a method for dealing with congestion and flow

control.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael Chuen whose telephone number is 571-272-

5206. The examiner can normally be reached on Monday - Friday, 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600